

REMARKS

Upon entry of the instant amendment, claims 1-3, and 6-24 will remain pending in the above-identified application and stand ready for further action on the merits.

The amendments made herein to the specification and claims do not incorporate new matter into the application as originally filed and are thus proper for consideration at present.

The amendment to the specification simply corrects a minor typographical error at page one of the specification.

The amendments to claims 1-3 find support in original claims 4-5, which are now cancelled. The amendment to claim 8 finds support in original claim 21, line 8 of the specification. The amendment to claim 9, and more precisely the lower limit of 5 recited in claim 9 is supported by the surfactant B-4 in Table 2 at page 36 of the specification, wherein the surfactant B-4 (i.e., lauryl alcohol adduct of PO₃) has an alkylene oxide group present in an average of 5 moles per 1 mole of the alcohol (*see* Table 2).

New claim 15 finds support in an original Example (*see* Table 4, *Paper Quality Improver No. 7*). New claims 16-17 find support at page 17, line 9 of the specification, new claim 18 finds support at page 23, line 23; new claim 19 finds support at page 26, starting six lines from the bottom of the page; new claim 20 finds support at page 17, last line to page 18, line 5 of the specification; new claim 21 is supported at page 21, lines 13-15 of the specification; new claim 22 is supported by examples in the specification and page 23, lines 23-25; new claim 23 is

supported at page 16, line 8 of the specification; and new claim 24 is supported at page 14, lines 14-27 of the specification.

Accordingly, entry of the instant amendment is respectfully requested at present.

Examiner Interview

Applicants appreciate the Examiner's courtesy in granting a personal interview at the USPTO on September 12, 2006. The comments set forth in the Examiner Interview Summary Form resulting from the Interview are correct as to subject matter discussed in the Interview.

In the interview, some discussion took place as to how values recited, e.g., in claim 1 are measured. As stated by the undersigned in the interview, the specification at pages 40-41 properly explains how measure such items. These items include bulk density, brightness, opacity and bursting strength. (*See pages 40-41 of the application, starting at the heading on page 40 of "<Evaluation Items and Methods>"*.)

Correction of Specification Informality

Page 1 of the specification has been amended to remove the informality noted by the Examiner in the "Background of the Invention" section of the application.

Claim Rejections -- 35 USC § 112

Claims 1-14 have been rejected under the provisions of 35 USC § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject that applicants regard as the invention. Reconsideration and withdraw of this rejection is respectfully

requested based on the minor claim amendments made herein to the claims, and the following considerations.

As stated in M.P.E.P. §§ 2173.01 and 2173.02 :

A fundamental principle contained in 35 U.S.C. 112, second paragraph is that applicants are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose so long as any special meaning assigned to a term is clearly set forth in the specification. See MPEP § 2111.01. Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought. As noted by the court in In re Swinehart, 439 F.2d 210, 160 USPQ 226 (CCPA 1971), a claim may not be rejected solely because of the type of language used to define the subject matter for which patent protection is sought.

The examiner's focus during examination of claims for compliance with the requirement for definiteness of 35 U.S.C. 112, second paragraph, is whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available. When the examiner is satisfied that patentable subject matter is disclosed, and it is apparent to the examiner that the claims are directed to such patentable subject matter, he or she should allow claims which define the patentable subject matter with a reasonable degree of particularity and distinctness. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire. Examiners are encouraged to suggest claim language to applicants to improve the clarity or precision of the language used, but should not reject claims or insist on their own preferences if other modes of expression selected by applicants satisfy the statutory requirement.

As seen above, claims 1-3 have been amended to insert a comma “,” before the recitation of the phrase “and a surfactant (B)....” to help clarify that the surfactant is not part of the derived monomer.

Claim 5 has also been cancelled and its limitations are now recited in pending claims 1-3, such that the prior antecedent basis problem has been effectively rendered moot.

Claim Rejections – 35 USC § 102

Claims 1-14 have been rejected under the provisions of 35 USC § 102(b) as being anticipated by Honig et al. US ‘766 (US 5,167,766). Reconsideration and withdraw of this rejection is respectfully requested based on the following considerations.

Legal Standard for Determining Anticipation

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.” *Brown v. 3M*, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001) “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis*

verbis test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Distinctions Over the Cited Art

Honig et al. US '766 does not disclose or provide for an Example of a copolymer that is made from a combination a nonionic monomer having a solubility parameter (SP) of 20.5 or less and a nonionic monomer having a SP of 26.6 or more. Based on this deficiency in the cited Honig et al. US '766 reference, the same is incapable of anticipating the instant invention as claimed.

Moreover, the instant invention as claimed is distinct and different from the cited Honig et al. US '766 reference in terms of the weight ratios (weight %'s) of a nonionic monomer having a solubility parameter (SP) of 20.5 or less, and a nonionic monomer having a solubility parameter (SP) of 26.5 or more, that are recited in, e.g., pending claims 1-3. These limitations/distinctions are not taught or otherwise found in the cited Honig et al. US '766 reference.

Accordingly, in support of the novelty of the claimed invention, the Examiner need only look at instantly pending claim 1 as it is amended herein to recite:

1. A paper quality improver for papermaking, comprising a copolymer (A) having a constituent unit derived from at least one nonionic monomer having a solubility parameter of 20.5 (MPa)^{1/2} or less and a constituent unit derived from at least one anionic or cationic monomer, and a surfactant (B) at an (A)/(B) ratio in the range of 99/1 to 1/99 (weight ratio), the quality improver providing at least one paper quality improving effect of the followings (i), (ii), and (iii):

- (i) standard improved bulky value: 0.02 g/cm³ or more;
- (ii) standard improved opacity: 1.0 point or more; and

(iii) standard improved brightness: 0.5 point or more;

wherein the copolymer (A) further comprises a constituent unit derived from at least one nonionic unsaturated monomer having a solubility parameter of $26.6 \text{ (MPa)}^{1/2}$ or more; and

wherein, as the contents of the constituent monomers, the copolymer (A) comprises:

5 to 84% by weight of the nonionic monomer having a solubility parameter of $20.5 \text{ (MPa)}^{1/2}$ or less,

1 to 80% by weight in total of the anionic monomer and the cationic monomer, and

15 to 94% by weight of the nonionic unsaturated monomer having a solubility parameter of $26.6 \text{ (MPa)}^{1/2}$ or more.

More particularly, it is clear that upon reviewing the above claim 1, many of the parameters recited therein are not found in the teachings and/or examples of the cited Honig et al. US '766 reference (including those limitations set forth in the final wherein clause of instantly amended claim 1).

Based on the above considerations, withdraw of the outstanding anticipation rejection of claims 1-3 and 6-14 is respectfully requested at present.

Claim Rejections – 35 USC § 103(a)

Claim 3 has been rejected under the provisions of 35 USC § 103(a) as being anticipated by Honig et al. US '766, in view of Haylock (Paper, Its making merchanting and usage, 3rd ed., The National Association of Paper Merchants, London, page 72).

Claims 1-14 have been rejected under the provisions of 35 USC § 103(a) as being anticipated by Honig US '783 (US 5,431,783) in view of Honig et al. US '766, and in further view of Haylock.

Claims 1-14 have been rejected under the provisions of 35 USC § 103(a) as being anticipated by Ryles et al. US '808 (US 5,171,808), in view of Honig et al. US '766, and in further view of Haylock.

Reconsideration and withdraw of each of these rejections is respectfully requested based on the following considerations.

Legal Standard for Determining Prima Facie Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

"There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998)

(The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Distinctions Over the Cited Art

As indicated above, the cited Honig et al. US '766 reference is incapable of anticipating the instant invention as claimed. In this respect, it is also submitted that none of the instantly cited references (Honig et al. US '766, Honig US '783, Haylock or Ryles et al. US '808) is capable of rendering the instant invention as claimed obvious. This is true whether such references are considered singularly or in combination. This is because the references provide no motivation to arrive at the instant invention as claimed, and moreover, because the instant invention has associated therewith unexpected and advantageous results that are in no way rendered obvious by the cited art of record.

Regarding the former point, it is again noted that none of the cited art references teach or disclose or provide for an Example of a copolymer that is made from a combination a nonionic monomer having a solubility parameter (SP) of 20.5 or less and a nonionic monomer having a SP of 26.6 or more. No motivation is provided in any of the cited art references to arrive at such a composition or construction (or the unexpected properties that are associated therewith).

Moreover, the instant invention as claimed is distinct and different from the cited references (Honig et al. US '766, Honig US '783, Haylock or Ryles et al. US '808) in terms of the weight ratios (weight %'s) of a nonionic monomer having a solubility parameter (SP) of 20.5 or less, and a nonionic monomer having a solubility parameter (SP) of 26.5 or more, that are recited in, e.g., instantly pending claims 1-3. These limitations/distinctions are not taught or otherwise found in any of the cited references of record being relied upon by the USPTO to support the outstanding rejections of the claims under 35 USC § 103(a).

Regarding the latter point of unexpected results, Examples are provided in the instant specification showing that the instant invention as claimed exhibits unexpectedly good results, especially with regard to the unexpected property of an advantageous burst index (*e.g.*, see Tables 4-6 in the instant specification at pages 39, and 42-43 of the instant specification).

More particularly, the following points of distinction are noted based on the unexpected properties and advantages that are associated with the instant invention as claimed.

1) As to Pending Claim 1

In Table 5 of the specification (*see page 42*), the products of the invention 1-1 to 1-9 and comparative products 1-2 and 1-5 (in Table 5), all have B-1 as surfactant (B).

The products of the invention 1-1 and 1-2 are examples not including a nonionic monomer having a solubility parameter (SP) of 26.6 or more, and these examples are inferior in burst index as compared with the products of the invention 1-3 to 1-9 that include a nonionic monomer having a SP of 20.5 or less and a nonionic monomer having a SP of 26.6 or more.

Likewise, comparative products 1-2 to 1-5 (in Table 5) are comparative examples not including a nonionic monomer having a solubility parameter (SP) of 20.5 or less. These examples are inferior in properties of bulk density, brightness and opacity as compared to the products of the invention 1-3 to 1-9.

2) As to Pending Claim 8

In Table 5, the Examiner is invited to compare products of the invention 1-3 and 1-12 to 1-18 with the products of the invention 1-19 to 1-20, all of which have A-3 as copolymer (A). The product of the invention 1-18 contains a cationic surfactant (B). The product of the invention

1-19 has an amphoteric surfactant, and the product of the invention 1-20 has an anionic surfactant. It can be seen by reviewing Table 5, that the products of the invention 1-19 to 1-20 are inferior in bulk density to the products of the invention 1-3, and 1-12 to 1-17.

3) As to Claim 9

In Table 2 of the specification, the surfactants **B-1**, **B-2**, **B-4** and **B-5** are within the claimed range of 5 to less than 150, but **B-3** is outside of the newly claimed range in claim 9.

In Table 4, the Examiner is also invited to compare results for products of the invention 13 (containing **B-3**), with those of the products of the invention 14 and 15, both of which have **A-3** as copolymer (A) and contain **B-4** or **B-5** as surfactant (B).

The product of the invention 13 (in Table 4) is inferior in each of standard improved bulky value, standard improved brightness, and standard improved opacity than are the products of the invention 14 and 15.

4) As to Claim 10

In Table 5, the Examiner is also invited to compare the products of the invention 1-3, 1-12, 1-13 and 1-18 to 1-20 with the products of the invention 1-14 to 1-17, all of which have **A-3** as copolymer (A). Each of the products of the invention 1-3, 1-12, 1-13 and 1-18 to 1-20 exhibit 1.85 or more in burst index. In contrast, products of the invention 1-14 to 1-17 contain surfactants **B-4** to **B-7**, which are not water-soluble (see Table 2) and exhibit 1.24 at most in index.

5) As to Claim 15

In **Table 4**, the Examiner is invited to compare the products of the invention 3 to 9 with the products of the invention 1 to 2, all of which have **B-1** as Surfactant (B). The products of the invention 1 to 2 are outside of the claimed range recited in new claim 15.

The products of the invention 1 to 2 are examples not including a nonionic monomer having a solubility parameter (SP) of 26.6 or more.

Comparative product 5 is an example not including a nonionic monomer having a solubility parameter (SP) of 20.5 or less.

The products of the invention 1 to 2 and **comparative product 5** are outside of the range regarding a standard improved ratio in burst index (*as recited in new claim 15*).

Even products of the invention having both of a nonionic monomer having a SP of 20.5 or less and a nonionic monomer having a SP of 26.6 or more, the products of the invention 14 to 17 having a combination with specific non-water-soluble (B) surfactants are outside of the range regarding a standard improved ratio in burst index (*as recited in new claim 15*).

6) As to Claim 16

In **Table 1**, the Examiner's attention is directed to the products of the invention A-4 to A-7, all of which have the same monomer and close molecular weight. A-5 is outside of the instantly recited range in new claim 16.

In **Table 4**, the Examiner is invited to compare the products of the invention 4, 6 and 7, which use **B-1** as surfactant (B), with the product of the invention 5, which is outside of the range in new claim 16. The former (products of the invention 4, 6 and 7) are excellent in all of standard improved bulky value, standard improved brightness, standard improved opacity, and

the former are also equal to or excellent in standard improved ratio in burst index when compared with the product of the invention 5 (which contains A-5 that is outside of the instantly recited range in new claim 16).

7) As to Claim 17

In Table 1, the Examiner is invited to see that the copolymers of the invention A-4 to A-7, all of which have the same monomer and close molecular weight, however, A-5 and A-6 are outside the claimed range recited in new claim 17.

In Table 4, comparing the products of the invention 4 and 7, which use B-1 as surfactant (B), with the product of the invention 5 and 6, which are outside of the claimed range in new claim 16. The former (products of the invention 4 and 7) are more excellent in standard improved ratio in burst index than the later (product of the invention 5 and 6).

Accordingly, based on the above test results reported in the instant specification, it is clear that all of the pending claims have associated therewith unexpected and advantageous properties that are not possessed by the cited art of record, whether such references are considered singularly or in combination.

The achievement of such unexpected results is acceptable indicia to judge the non-obviousness of the instant invention as claimed. Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966).

For the Examiner's convenience, a copy of Table 1, Table 2, Table 4 and Table 5 from the instant specification are each reproduced below.

TABLE 1

Component No.	Monomer (A)	Monomer (B)	Monomer (C)	Monomer (D)	Weight ratio of (A):(B):(C):(D)	Molar ratio (M) ratio (M)	Weight average molecular weight	
							poly(methacrylate)	poly(styrene)
A-1	MIPMA	QMA	---	---	61.26%	---	14000	67000
A-2	VEHA	MIPMA	DMMA	---	24.10%	---	14000	67000
A-3	VEHA	DMMA	QMA	---	22.26%	---	14000	67000
A-4	VEHA	DMMA	QMA	---	22.26%	---	14000	67000
A-5	VEHA	DMMA	QMA	---	22.26%	---	14000	67000
A-6	VEHA	DMMA	QMA	---	22.26%	---	14000	67000
A-7	VEHA	DMMA	QMA	---	22.26%	---	14000	67000
A-8	VEHA	DMMA	QMA	---	22.26%	---	14000	67000
A-9	VEHA	DMMA	QMA	---	22.26%	---	14000	67000
A-10	DMMA	QMA	---	---	24.10%	---	14000	67000

Monomer (A): Nonema, characterized by having a solubility parameter of 20.5 (MPa)^{1/2} or less.

Monomer (B): Acrylic or methacrylic monomer.

Monomer (C): Nonfluorinated monomer (excluding DMMA) having a solubility parameter of 16 or higher and 20 or less.

Monomer (D): Comonomer monomer.

TABLE 2

No.	Compound name	B.C.	Molar ratio	
			solubility	(%)
B-1	Latent alcohol adduct of block copolymer (C ₁₂ H ₂₅ PO ₄) ₂ (1,4)-diisobutylene glycidyl ether (1:1 weight ratio)	1.4	+	100
B-2	Latent alcohol adduct of C ₁₂ H ₂₅	1.4	+	100
B-3	Latent alcohol adduct of monodisocyanate	1.4	+	100
B-4	Latent alcohol adduct of PO ₄	1.4	+	100
B-5	Latent alcohol adduct of SO ₂	1.4	+	100
B-6	Latent alcohol adduct of SO ₂	1.4	+	100
B-7	Latent alcohol adduct of SO ₂	1.4	+	100
B-8	Latent alcohol adduct of SO ₂	1.4	+	100
B-9	Latent alcohol adduct of SO ₂	1.4	+	100
B-10	Latent alcohol adduct of SO ₂	1.4	+	100

TABLE 4

Composition										
Capacitmer (A)		Surfactant (B)		polymer (C)		properties				
						standard improver bulky value (g cm ³)	standard improver brightness (point)	standard improver opacity (point)	value in burst index (%)	
Paper quality improver No.	kind	addition amount parts by weight	kind	addition amount parts by weight	kind	addition amount parts by weight	standard improver bulky value (g cm ³)	standard improver brightness (point)	standard improver opacity (point)	value in burst index (%)
Product percentage										
1	A-1	1.0	B-1	1.0	---	---	0.0530	0.0	2.6	-897
2	A-2	1.0	B-1	1.0	---	---	0.0430	0.4	1.4	-501
3	A-3	1.0	B-1	1.0	---	---	0.0730	0.0	2.5	-453
4	A-4	1.0	B-1	1.0	---	---	0.0770	0.2	2.7	-438
5	A-5	1.0	B-1	1.0	---	---	0.0450	0.4	1.4	-370
6	A-6	1.0	B-1	1.0	---	---	0.0560	0.6	2.3	-380
7	A-7	1.0	B-1	1.0	---	---	0.0390	0.5	2.3	-502
8	A-8	1.0	B-1	1.0	---	---	0.0610	0.0	2.4	-594
9	A-9	1.0	B-1	1.0	---	---	0.0600	0.8	2.2	-365
10	A-4	1.0	B-1	1.0	C-1	1.0	0.0450	0.8	3.1	-57
11	A-4	1.0	B-1	1.0	C-2	1.0	0.0480	1.0	3.0	-53
12	A-3	1.0	B-2	1.0	---	---	0.0420	0.6	1.9	-417
13	A-3	1.0	B-3	1.0	---	---	0.0260	0.5	0.7	-235
14	A-3	1.0	B-4	1.0	---	---	0.0770	1.2	3.2	-780
15	A-3	1.0	B-5	1.0	---	---	0.0690	1.0	2.8	-647
16	A-3	1.0	B-6	1.0	---	---	0.0670	1.2	3.4	-701
17	A-3	1.0	B-7	1.0	---	---	0.0650	1.2	3.6	-768
18	A-3	1.0	B-8	1.0	---	---	0.0420	0.4	1.9	-224
19	A-3	1.0	B-9	1.0	---	---	0.0350	0.5	0.8	-331
20	A-3	1.0	B-10	1.0	---	---	0.0210	0.4	-0.3	-406
21	A-10	1.0	B-1	1.0	---	---	0.0580	0.8	2.5	-434
Comparative products										
1	A-4	2.0	---	---	---	---	0.0140	0.1	0.6	-284
2	---	---	B-1	2.0	---	---	0.0120	0.5	-0.4	-431
3	---	---	---	---	C-1	1.0	-0.0170	-0.5	-0.3	Indefinite
4	---	---	---	---	C-2	1.0	-0.0100	-0.4	0.1	Indefinite
5	---	---	B-1	2.0	C-1	1.0	-0.004	-0.2	-0.5	Indefinite
6	blank (without any paper quality improver)						---	---	---	Indefinite

TABLE 5

Composition										
Papermaker (A)				Water-wastery polymer (B)						
Additive		Additive		Additive		desired prop.				
amount	amount	amount	amount	amount	amount	bulk density	brightness	opacity	Burst index	
wt.-%	wt.-%	wt.-%	wt.-%	wt.-%	wt.-%	(g/cm ³)	(%)	(%)	[kPa g/m ²]	
Product of the claims a										
1-1	A-1	1.0	B-1	1.0	---	---	0.187	57.5	92.0	1.17
1-2	A-2	1.0	B-1	1.0	---	---	0.184	57.0	92.0	1.43
1-3	A-3	1.0	B-1	1.1	---	---	0.187	58.7	95.1	1.49
1-4	A-4	1.0	B-1	1.0	---	---	0.181	58.1	95.7	1.66
1-5	A-5	1.0	B-1	1.0	---	---	0.183	57.7	92.2	1.85
1-6	A-6	1.0	B-1	1.0	---	---	0.177	57.9	92.7	1.76
1-7	A-2	1.0	B-1	1.0	---	---	0.178	58.0	92.8	1.57
1-8	A-5	1.0	B-1	1.0	---	---	0.178	58.2	93.0	1.88
1-9	A-9	1.0	B-1	1.0	---	---	0.154	58.1	93.0	1.77
1-10	A-2	1.0	B-1	1.0	C-1	1.0	0.139	58.3	93.0	2.55
1-11	A-4	1.0	B-1	1.0	C-2	1.0	0.186	58.3	92.8	2.40
1-12	A-5	1.0	B-2	1.0	---	---	0.183	57.0	90.9	1.88
1-13	A-3	1.0	B-3	1.0	---	---	0.180	57.8	92.5	1.60
1-14	A-5	1.0	B-4	1.0	---	---	0.162	58.0	93.9	1.98
1-15	A-3	1.0	B-5	1.0	---	---	0.168	58.3	93.6	1.52
1-16	A-5	1.0	B-6	1.0	---	---	0.149	58.4	93.6	1.18
1-17	A-5	1.0	B-7	1.0	---	---	0.177	58.4	93.9	1.19
1-18	A-3	1.0	B-8	1.0	---	---	0.187	57.7	92.7	2.05
1-19	A-5	1.0	B-9	1.0	---	---	0.180	57.8	92.3	2.03
1-20	A-5	1.0	B-10	1.0	---	---	0.185	57.7	92.4	2.08
1-21	A-10	1.0	B-1	1.0	---	0	0.183	58.7	93.6	4.51
Comparative product										
1-1	A-1	1.0	---	---	---	---	0.181	57.7	92.0	2.20
1-2	---	---	B-1	1.0	---	---	0.174	57.7	90.7	2.04
1-3	---	---	---	---	C-1	1.0	0.161	56.8	91.8	1.18
1-4	---	---	---	---	C-2	1.0	0.185	58.0	91.3	2.09
1-5	---	---	B-1	1.0	C-1	1.0	0.175	57.2	90.8	1.68
1-6	Blank (without any paper quality improver)						0.178	57.4	91.0	1.94

Conclusion

Based on the amendments and remarks presented herein, the Examiner is respectfully requested to issue a notice of allowance in the matter of the instant application, which sets forth that each of instantly pending claims 1-3 and 6-24 is allowed and patentable under the provisions of Title 35 of the United States Code.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John W. Bailey (Reg. No. 32,881) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: September 18, 2006

Respectfully submitted,

By 

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